Attachment 4

Replacement Declaration Exhibit G – Debtors' Letter to BP, Dated November 3, 2020

November 3, 2020

BP Exploration & Production Inc. 200 Westlake Park Boulevard Houston, Texas 77079 Attn: Mr. Jourdan Janik

Re: Genovesa Single Flowline Plan to mitigate impact from ongoing diagnosis and potential remediation on the Loop

Dear Jourdan:

Reference is made to that certain:

- Production Handling and Operating Services Agreement effective September 21, 2010, as amended, (the "Na Kika PHA") by and between Noble Energy, Inc., as predecessor in interest to Fieldwood Energy LLC ("Fieldwood") BP Exploration and Production Inc. ("BP"), Red Willow Offshore, LLC ("Red Willow") and Houston Energy Deepwater Ventures I, LLC ("HEDV") covering production handling services at the Na Kika FPS ("Na Kika");
- Loop Subsea Production System Construction and Operating Agreement ("Loop OA") dated effective 1 December 2011, as amended, by and between Noble Energy, Inc, as predecessor in interest to Fieldwood, BP, Red Willow and HEDV covering the construction and operation of the Galapagos Area Loop Subsea Production System ("Loop");
- Letter Agreement for the Galapagos Genovesa Tieback Project Appraise and Execution Stage AFE's dated October 3, 2019 by and between BP and Fieldwood, (the "AFE Letter Agreement"); and the
- Letter Agreement for the Connection of a Satellite Well System to the Loop dated January 28, 2020 by and between BP and Fieldwood (the "Connection Letter Agreement").

Background

Since its successful drilling in July 2019, Fieldwood has been progressing tieback of the MC 519 #3 Well (the "Genovesa Development") into the Loop for transport back to Na Kika for further handling, as provided for in the Loop OA and the Na Kika PHA. As BP is the Operator for both the Loop and Na Kika, many activities related to the Genovesa Development have required BP's coordination, input and approval, which has been carried out under the Loop OA and Na Kika PHA generally and the AFE Letter Agreement specifically.

On April 14, 2020, during the execution of the LSPS Work (as defined in the Connection Letter Agreement), an abnormal condition was observed that may indicate the presence of very small leak on the Loop. Since that time, BP has conducted several diagnostic campaigns to confirm the presence of a leak, if any, but at this time, the results have been inconclusive. BP plans to continue the investigation and diagnosis of the Loop.

As BP is aware, not only is the Genovesa Development, which will be ready to commence production in mid-November 2020, critical for Fieldwood and its co-venturers Red Willow and HEDV, but also the return to production of the MC 519 #1 ("Santa Cruz") and MC 519 #2 ("Santiago"), both of which have been unable to produce since April 2020 due to the ongoing diagnostics on the Loop.

Minimizing Impact from Loop Diagnosis / Repair on MC 519 Production

In addition to the significant planning and execution on the Genovesa Development, since July 2019, Fieldwood has ensured, via its engagement with BP, that the Genovesa Development was compatible with both the Loop and Na Kika, including paying BP ~\$4.4 MM for its costs spent in support of the Genovesa Development thus far. As a result, and notwithstanding the inability for the Loop to receive production due to ongoing diagnosis and possible remediation operations occurring well into 2021, the Genovesa Development is nearly complete, only requiring final EFL hookup and commissioning, and is expected to be capable of production in mid/late November 2020.

On October 22, 2020 at a previously scheduled Loop MCM, BP shared its preliminary options for the long term repair of the Loop should the results of the diagnostics campaign(s) indicate the need for same. If required, the time frame contemplated for such long term repair, depending on the strategy that is agreed amongst the Loop co-venturers, may take up to two (2) years to complete, thus severely impacting the full, unrestricted production from MC 519 during that time.

While Fieldwood is hopeful that the ongoing diagnosis campaign indicates that there is, in fact, no leak in the Loop or if a leak is identified, remediation can be achieved with an in-situ solution such as Seal-Tite or an adjustment to the operating parameters, given the uncertainty of the status of the Loop at this time and the critical nature of the Genovesa Development to Fieldwood and its coventurers, Fieldwood must plan to accommodate production from MC 519 in the event the Loop requires long term repair.

As a result of such planning, Fieldwood, as Operator of the Genovesa Development, has prepared the attached Genovesa Single Flowline Plan which outlines the changes that need to be made to the previously approved Genovesa Development in order to minimize the impact of the ongoing Loop diagnosis and any remediation work that may be required.

The Genovesa Single Flowline Plan, which largely aligns with similar plans that BP has presented, will require ongoing coordination amongst BP and Fieldwood as it impacts both the Genovesa Development and the Loop. Such coordination, as further detailed in the attached, will include, but not be limited to:

- 1. Fieldwood and BP jointly developing and agreeing on engineering design, flow assurance, operating procedures, regulatory plans and subsea operations;
- 2. BP flushing the jumper between Santiago PLEM-1 and Santiago PLEM-2 with methanol from the Santiago tree;
- 3. Fieldwood removing the jumper between Santiago PLEM-1 and Santiago PLEM-2 and installation of pressure caps;
- 4. Fieldwood removing the jumper between the Genovesa PLIS and Santiago PLEM-1;
- 5. Fieldwood installing a new jumper between the Genovesa PLIS and Santiago PLEM-2, including flushing and testing and startup of Genovesa and/or Santiago; and

6. Fieldwood and BP ongoing joint development and implementation of plans for Loop remediation (including recovery, repair and/or reinstatement)

Given the advanced stage of the Genovesa Development and engagement with BP since July 2019, plus the ongoing work BP has already done in support of a similar single flowline plan for the production from MC 562 ("Isabela"), the Genovesa Single Flowline Plan requires minimal engineering, design or topsides work. Any costs that BP incurs in supporting implementation of the Genovesa Single Flowline Plan, which Fieldwood has estimated in the Cost / Time / Resource ("CTR"), will be governed by the AFE Letter Agreement, including the supplementation, if necessary, of the previously approved execution AFE. Furthermore, future LSPS Work (as defined in the Connection Letter Agreement) that needs to be carried out may be governed by the Connection Letter Agreement. Where appropriate, an agreement permitting Fieldwood to act as substitute Operator of the Loop for a specific jumper removal operation, may be required.

Fieldwood and BP alignment on Genovesa Single Flowline Plan and Timing

Successful implementation of the Genovesa Single Flowline Plan, and indeed, the diagnosis and, if necessary, remediation of the Loop, cannot occur if BP and Fieldwood are not closely aligned on the plan and timing. While BP has indicated a 1Q 2021 timeline for Genovesa and Santiago production, Fieldwood believes that with the prompt alignment on the items listed below, production for Genovesa and Santiago will be achieved in early/mid-February 2021.

Critically, as no production or well operations have occurred on the block since April 5, 2020, the current lease for MC 519 (OCS-G27278) will expire on April 4, 2021 unless production is restored prior to that time. In the event production is unable to be restored by that time, Fieldwood must apply for a Suspension of Production ("SOP") with BSEE to hold the Lease, which among other things, requires submission of a detailed "Activity Schedule" complete with milestone dates from the ultimate plan and timings agreed amongst Fieldwood and BP that, once approved by BSEE, represent a commitment by Fieldwood to carry out in return for BSEE preventing the lease from expiration.

To that end, Fieldwood seeks firm and binding alignment with BP, not later than November 30, 2020, on the following:

- 1. BP approval, in its capacity as Operator of the Loop and Na Kika, of the changes made to the Genovesa Development that impact the Loop and Na Kika outlined in the Genovesa Single Flowline Plan, including the timing for such approval, and commitment that the Genovesa Development, Santa Cruz and Santiago will receive same level of support that is provided to Isabela.
- 2. BP input and ultimate approval on the draft CTR document in the attachment prepared by Fieldwood, for costs expected to be incurred by BP, in its capacity as Operator of the Loop and Na Kika, in the implementation of the Genovesa Single Flowline Plan.
- 3. Immediate submission by BP to Fieldwood of a supplemental AFE, if necessary, based on the CTR, to ensure BP support remains uninterrupted.
- 4. Fieldwood and BP adoption of a schedule based on the timeline attached for the implementation of the Genovesa Single Flowline Plan and submission as part of an SOP,

- 5. BP approval, in its capacity as Operator of the Loop and Na Kika, for Fieldwood to remove the jumper between the Genovesa PLIS and Santiago PLEM-1 and Fieldwood to install a new jumper between the Genovesa PLIS and Santiago PLEM-2 jumper.
- 6. BP approval, in its capacity as Operator of the Loop and Na Kika, for Fieldwood to act as substitute Operator for the Loop for the sole purpose of removing the jumper between Santiago PLEM-1 and Santiago PLEM-2 and installation of pressure caps.
- 7. Commitment between BP and Fieldwood to continue the weekly project team meetings to ensure timely progress on the Genovesa Single Flowline Plan, including permitting and other regulatory matters.

Fieldwood looks forward to working with BP to reach alignment not later than November 30, 2020. Nothing in this letter or in the documents attached hereto prejudices or waives any rights Fieldwood may have under the applicable agreements, at law or in equity and Fieldwood specifically reserves all such rights.

Sincerely,

Nathan M. Vaughn Deepwater Land Advisor

Fieldwood Energy LLC

CC: Rex Richardson, Red Willow Offshore, LLC

David Amend, Houston Energy Deepwater Ventures I, LLC

Genovesa Single Flowline Plan

Prepared by Fieldwood Energy LLC (October 30, 2020)

Genovesa Development Overview & Status:

The MC 519 # 3 well and tieback ("Genovesa Development") was designed, proposed, engineered and sanctioned by Fieldwood Energy LLC ("Fieldwood"), as Operator of the relevant contract area on MC 519, which is dedicated to the Loop and Na Kika Host ("Na Kika"), as an "add on" to the existing MC 519 #1 ("Santa Cruz") and MC 519 #2 ("Santiago") developments, all of which are dedicated to the Na Kika Host ("Na Kika"). The production from MC 519 is transported the Na Kika for processing via the LSPS ("Loop").

At the current time, the Genovesa Development is tied back to the Santiago subsea system, approximately two (2) miles to the west, via a new dedicated, pipe-in-pipe flowline. Rigid jumpers are used to connect to a 15,000 psi tree and to the existing Santiago Pipeline End Manifold 1 ("SA PLEM 1"), with the intermediate Pipeline Isolation Skid ("PLIS") connecting to PLEMs on each end of the new flowline Production chemicals required for the Genovesa Development are to be supplied from the existing Galapagos System, via the existing Santiago umbilical and a new 10,940' infield umbilical from the Santiago Subsea Umbilical Termination Assembly ("Santiago SUTA") to a new SUTA at the Genovesa well.

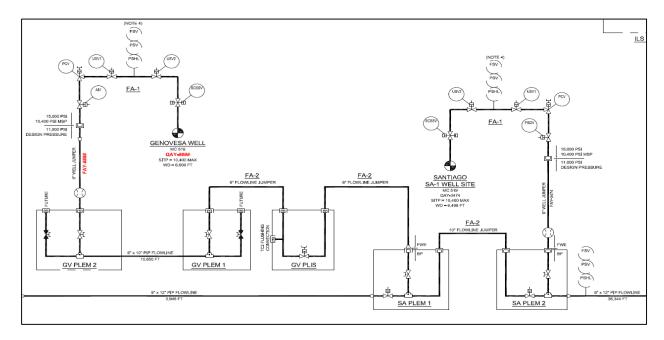


Figure 1- Genovesa Field Schematics

After two years of planning, engineering and execution across all phases, the Genovesa Development is nearly 100% complete, with the final hook ups and commissioning planned to occur in mid to late November 2020. The completed major milestones in the Genovesa Development are as follows:

- The Genovesa well has been drilled and completed with OneSubsea 15,000 psi Subsea HXT.
- A 6" x 10" pipe-in pipe ("PIP") single flowline system installed with a design pressure of 11,000 psi and has been tested, commissioned and filled with diesel and is <u>ready to accept</u> production from the Genovesa well.
- The Genovesa well jumper, PLIS jumper, flowline jumper are all fully connected, tested, established connectivity to NaKika and the jumpers at each have been filed with diesel. <u>All jumpers are ready to accept production from the Genovesa Well</u>
- A 14-tube infield umbilical is installed and connected from Santiago to the Genovesa well site. The infield umbilical measures 8 x ³/₄" and 6 x ¹/₂" (all super duplex) with 3-quads for power and communications. <u>All tubes are commissioned and ready to support production</u> from the Genovesa well.
- Steel Flying Leads ("SFL's") and Electrical Flying Leads ("EFL's") are hooked up at the Genovesa and Santiago well sites.
- The OneSubsea ("OSS") software at Na Kika has been upgraded to support the Genovesa Development

The only outstanding milestones prior to the Genovesa Development become capable of commencing production are:

- Upgrade of the Honeywell DCS system to support the Genovesa Development (Expected completion date: November 15, 2020. *See Figure 1*).
- Final EFL hook-up at the Galapagos Field CDU to Santiago SUTA and XT (Expected completion date: November 6, 2020. *See Figure 2*).

With the completion of the above, the Genovesa Development will be ready for production commencement on November 30, 2020.

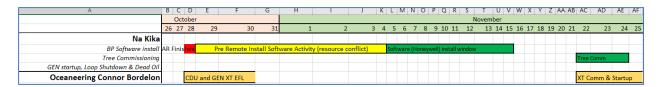


Figure 2 – Tentative Vessel Schedule for remaining scope

Loop Diagnostics and Status:

On April 14, 2020, the M/V Cade Candies was undertaking LSPS Work (as that term is defined in the Connection Letter Agreement dated January 28, 2020) in support of the Genovesa Development and was preparing to relocate the SFL between the Subsea Chemical and Accumulation Module ("SCAM") and Santiago UTA-2. This involved disconnecting the SCAM end of the SFL (in the event of a vessel drift/drive off), relocating the Santiago UTA-2 end of the SFL to the GV1 SUTA, and reconnecting the SCAM end of the SFL. Upon disconnection of the SCAM end of the SFL, it was discovered that hydraulic fluid was bleeding from the HP & LP control lines on the SCAM. The SCAM end of the SFL was immediately re-installed to stop further hydraulic fluid loss. As a result of the hydraulic fluid loss, the two PLEM valves shifted to their fail safe positions - from closed to open - on both Santiago PLEM-1 & Santiago PLEM-2. The hydraulic system was then re-pressurized and the two PLEM valves were closed within minutes. It was at this time, that an abnormal condition was observed that may indicate the presence of a very small leak on the Loop.

While the diagnosis remains ongoing, initial analysis showed that the SCAM LP and HP connection couplers were actually "vented" instead of "poppeted", which the as-built drawings indicated should have been present.

In response to the abnormal condition that was observed, BP, as Operator of the Loop, has carried out seven ROV campaigns since April 14, 2020, to attempt to diagnose any issues, confirm and locate any leak and plan for remediation, if necessary. The campaigns have focused on following potential areas:

- **Visual Monitoring** In the initial campaign on April 17, 2020, an initial inspection was conducted and no evidence of a leak was detected. On July 6, 2020, the Loop was circulated and what appeared as a potential bubble leak was observed. The upcoming campaign at end of November 2020 will seek to recreate and confirm if leak is present.
- **Grease Plug** Using historical experience with grease plug venting at Santiago PLEM-2 SLDV -1 during installation in 2011, focus was initially on Santiago PLEM-2 and Santiago PLEM-1, including engineering and development of plans to recover insulation from Santiago PLEM's and tighten the valve's grease port, which occurred during the September 6, 2020 campaign.

- PLEM Valves- Pressure testing diagnostics on the valves located on Santiago PLEM-1, Santiago PLEM-2 and Santa Cruz PLEM-2 were conducted. This testing indicated greater possibilities of a possible leak location at Santa Cruz PLEM-2 SLDV-1 and insulation removal and recovery options were evaluated, including coiled tubing, but recovery was ultimately performed using water blaster on ROV during the September 26, 2020 campaign.
- Santa Cruz PLEM-2 SLDV Bonnet Santa Cruz PLEM-2 insulation damage was observed from video footage collected the during 2018 IMR campaign. Further, during the insulation recovery campaign, black stains on the insulation surrounding the SLDV bonnet connection along with suspected hydrates below the top plates of the PLEM were observed. During the October 13, 2020 campaign, pressure testing was performed at 5,500 psi and then 8,500 psi, where a small pressure loss of 2.5 psi/hr to 5 psi/hr were noted, however, no indications of leak or loss of integrity at SLDV1 valve bonnet connection were observed.

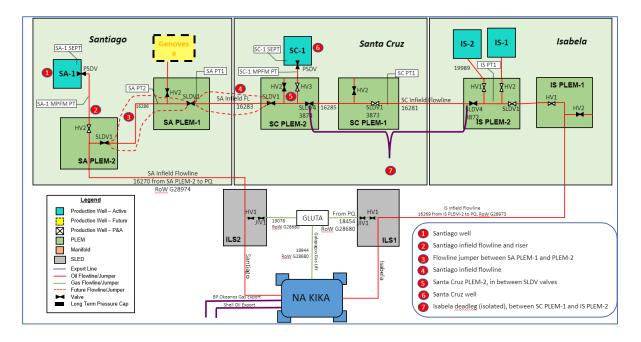


Figure 3 - Santa Cruz PLEM SLDV-1 Valve

Loop Diagnosis

The results of the diagnosis campaigns thus far have been inconclusive as BP has been unable to confirm the presence and/or location of a leak, if any, on the Loop. At the Loop MCM held on October 22, 2020, BP showed the following slide to outline its plans for next steps on the diagnosis and, if necessary, remediation of the Loop:

Path Forward - Diagnostics



- Review ROV Video and Pressure trends
- · Dead Oil Circulation (increase temperature)
- Develop accurate 3D model by using HD Video from Campaign 3
- Develop clamp or pressure containment device designs once egress points are known
- Continue to engage BSEE on new CAPs
- LSPS AFE Diagnostic costs will be charged to the joint account until root cause and liability
 are determined which may result in an adjustment to the Genovesa operator being the sole
 responsible party.

Figure 4a – BP Diagnosis Plans (October 22, 2020 MCM)

The Dead Oil Circulation in Figure 4a, which is expected to take place in late November 2020, will be key for the purpose of recreating the conditions when a potential bubble leak was observed during the July 6, 2020 campaign.

Loop Remediation

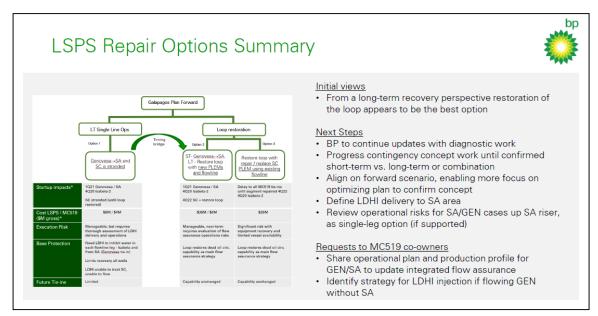


Figure 4b – BP Repair Options (October 22, 2020 MCM)

Parallel with the ongoing diagnosis campaigns and the potential in-situ solutions, Fieldwood supports the immediate and joint BP and Fieldwood evaluation of the following:

- The installation of a bypass around possibly leaking segment to allow for Loop dead oil circulation (Option 2 in Figure 4b)
- The recovery, repair, and reinstallation of the possibly leaking segment (Option 3 in Figure 3)
- Investigate potential in-situ solutions including, analysis of seal-tite or other injectable solutions and the initiation of the design and fabrication of clamp or pressure containment devices so that if/when a leak is identified in the future, remediation time will be minimized

Given the timing and constraint on production caused by ongoing diagnosis and possible remediation, it is critical that concept selection decision and funding approvals are obtained by the end of 2020 and the execution of the procurement with suppliers in early 1Q21.

Genovesa Single Flowline Plan

In the "LSPS Repair Options Summary" above, should the results of the diagnostics campaign(s) indicate the need for long term remediation, the timeframe for same may take up to two (2) years to complete, thus severely impacting the full, unrestricted production from MC 519 during that time.

Given this impact, Fieldwood proposes that itself and BP, in their capacities as Operators of MC 519 and MC 562 respective, should prepare to flow the MC 519 wells (Santiago, Santa Cruz and Genovesa) and MC 562 Wells (Isabela 1 and Isabela 2) up wells up independent single-leg flowlines on the Loop to Na Kika.

In an effort to minimize any impact, in October 2020, Fieldwood, as Operator of the Genovesa Development and Santiago and Santa Cruz Wells, commenced work towards a single flowline solution while longer-term repair solutions are considered for the Loop. In the event a short-term Loop integrity solution is accomplished (such as the in-situ options mentioned above), efforts towards the single line option will be suspended.

The results of that work is the Genovesa Single Flowline Plan which outlines the changes that need to be made to the previously approved Genovesa Development. The Genovesa Single Flowline Plan will require ongoing coordination amongst BP and Fieldwood as it impacts both the Genovesa Development and the Loop.

- 1. Fieldwood and BP jointly develop and agree on engineering design, flow assurance, operating procedures, regulatory plans and subsea operations;
- 2. BP flushing the jumper between Santiago PLEM-1 and Santiago PLEM-2 with methanol from the Santiago tree;
- 3. Fieldwood removing the jumper between Santiago PLEM-1 and Santiago PLEM-2 and installation of pressure caps and the jumper between the Genovesa PLIS and Santiago PLEM-1;
- 4. Fieldwood installing a new jumper between the Genovesa PLIS and Santiago PLEM-2 jumper, including flushing and testing and startup of Genovesa and/or Santiago; and
- 5. Fieldwood and BP ongoing joint development and implementation of plans for Loop remediation (including recovery, repair and/or reinstatement)

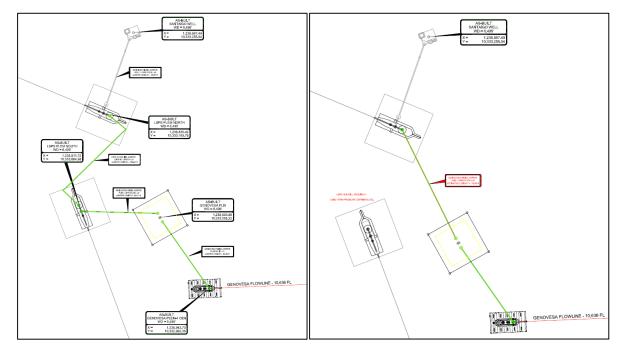


Figure 5 – As built Jumper Configuration

Figure 6 – New Jumper Configuration

The Genovesa Single Flowline Pan will require no changes to the original flow assurance strategy, except for a review of the hydrate management strategy. Operating procedures will identify the Genovesa well in the normal operations, system start up, and planned and unplanned shutdown sequences.

Fieldwood will provide a schedule showing key milestones, engineering, installation and regulatory activities. BP and FWE will have front-end agreement on scope, schedule and master document register ("MDR"). Weekly team meeting will help to track the progress and discuss opportunities among the project teams. A PDF copy of the released project schedule will be provided along with MDR.

Key activities identified for the project to enable Q1 2021 startup of the project:

- BP & FWE Decision, timing to disconnect SA PLEM to enable GEN production
- Agree BP & FWE BOD, AFE and Schedule
- BSEE KOM (FWE & BP)
- Control system C&S update
- OSS HMI update
- Nakika Schedule break-in and notifications
- BP Flow Assurance Review and Endorsement
- Engineering documents: Jumper Design, P&ID's, PFD's, GA drawings
- Regulatory submittals
- Offshore Recovery & Installation Procedure

A detailed schedule of the Genovesa Single Flowline Plan is attached hereto.

Genovesa Single Flowline Plan – Detailed Schedule

	*	External Milestone	ary	Manual Summary	Inactive Summary	Summary			
	Manual Progress	External Tasks	ary Rollup	Manual Summary Rollup	◆ Inactive Milestone ⋄	Milestone	č	Date: Tue 11/3/20	9
	Progress	Finish-only		Duration-only	lnactive Task	Op Split	Project: Genovesa Schedule Op	Genove	ect
•	☐ Deadline	Start-only		Manual Task	Project Summary	Task			
_			Thu 2/11/21	Wed 2/10/21		Genovesa startup	6	J.	35
			Sun 2/7/21	Fri 2/5/21	Leak test new Genovesa Tie-in Jumper and Commission with MEG	Leak test new Genov	_	ų.	34
•			Fri 2/5/21	Tue 2/2/21	Tie-in Jumper	Install new Genovesa Tie-in Jumper	_	4	33
•			Tue 2/2/21	Sat 1/30/21	ovesa Tie-in Jumper	Remove existing Genovesa Tie-in Jumper	20	J.	32
1			Thu 2/11/21	Sat 1/30/21		Offshore Activities	Offs	ų.	31
			Thu 1/21/21	Tue 12/22/20	w & Approval BSEE	Jumper Permit Review & Approval BSEE		J.	30
			Mon 1/11/21	Mon 12/14/20	Generate new Lease Term, DOCD, DWOP Permit	Generate new Lease	0		29
]		Thu 1/21/21	Mon 12/14/20	•	Regulatory New Jumper	Reg	ų.	28
			Sat 1/30/21	Sat 1/16/21	cation	Final Jumper Fabrication		ų.	27
			Tue 1/19/21	Tue 1/5/21	BP Review of New Jumper Installation Procedure	BP Review of New		,	26
			Tue 1/12/21	Tue 12/29/20	BP Review of Existing GEN Tie-in Jumper Recovery Procedure	BP Review of Existi		,	25
			Thu 11/26/20	Thu 10/22/20	riew FWE	Flow assurance review FWE		4	24
			Mon 12/14/20	Mon 11/30/20	sign review by BP	Revised Jumper Design review by BP		ų.	23
			Mon 12/14/20	Mon 11/30/20	Revised P&ID's, PFD's, GA drawings for approval by BP	Revised P&ID's, PF		,	22
			Sat 1/30/21	Thu 10/22/20	Jumper Design, Procurement & Fab (Buoyancy/bridge)	lumper Design, Proci	_	4	21
			Sat 1/30/21	Thu 10/22/20	s	Fieldwood led Activities	Fiel	ų.	20
			Tue 1/26/21	Fri 11/27/20	fications	Control system modifications	0	J.	19
			Fri 1/8/21	Fri 11/27/20	b for SA PLEM 1	STPC purchase/refurb for SA PLEM 1	S	ψ.	18
-			Sat 1/16/21	Fri 1/15/21	FWE GEN jumper	LiDAR check for new FWE GEN jumper	_	ψ.	17
•			Fri 1/15/21	Mon 1/11/21	Cut and remove flowline jumper at Santiago	Cut and remove flow	0	ų.	16
_			Mon 1/11/21	Mon 1/11/21	Flush flowine jumper at Santiago with MeOH from SA XT	Flush flowine jumper	-		15
•			Mon 1/11/21	Fri 1/8/21		Mobilization	7	J.	74
			Mon 12/28/20	Sat 11/28/20	Regulatory - Decomm, Commingling permit	Regulatory - Decomm	70	ų.	ü
			Tue 12/22/20	Tue 11/24/20	SA PLEM1 to PLEM2 FJ removal PO and Procedures	SA PLEM1 to PLEM2 F	S	J.	12
			Fri 12/4/20	Fri 10/30/20	BP Flow Assurance Review and Endorsement	BP Flow Assurance Re	8	J.	=
			Thu 11/12/20	Thu 10/1/20	cations	Nakika window notifications	7	ų.	10
		ī	Tue 1/26/21	Thu 10/1/20		BP/FW Joint Activities	BP,	ų.	9
		Ī	Thu 2/11/21	Thu 10/1/20	ies with BP	Single Leg Tie-back Activities with BP	Single	ų.	00
	_		Fri 12/18/20	Thu 12/17/20	act with BP	Agreement vessel contract with BP	Agn		7
	-		Sat 11/28/20	Fri 11/27/20		BSEE KOM (FWE & BP)	BSE	4	6
	•		Fri 11/27/20	Tue 11/24/20		Agree R&R's with BP	Agr		ر.
	•		Tue 12/1/20	Tue 11/24/20	VFE and Schedule	Agree BP & FWE BOD, AFE and Schedule	Agr	4	4
	_		Tue 11/24/20	Mon 11/23/20	BP & FWE Decision to disconnect SA PLEM to enable GEN production	& FWE Decision to di	BP 8	ų.	ω
]		Fri 12/18/20	Mon 11/23/20		tones	Milestones	J.	2
			Mon 11/23/20	Mon 11/16/20	BP - Leak Detection - Dead Oil Circulation w/ Gas Slipstream	eak Detection - Dead			<u>-</u>
Jan Feb	OCC	000							í

Genovesa Single Flowline Plan - Fieldwood prepared CTR

SCOPE:

Project:

Genovesa Single Flowline Plan

- FW193006 / BPNKO392392
- 1. Fieldwood and BP jointly develop and agree on engineering design, flow assurance, operating procedures, regulatory plans and subsea operations;
- 3. Fieldwood removing the jumper between Santiago PLEM-1 and Santiago PLEM-2 and installation of pressure caps and the jumper between the Genovesa PLIS and Santiago PLEM-1; 2. BP flushing the jumper between Santiago PLEM-1 and Santiago PLEM-2 with methanol from the Santiago tree;
- 4. Fieldwood installing a new jumper between the Genovesa PLIS and Santiago PLEM-2 jumper, including flushing and testing and startup of Genovesa and/or Santiago; and
- 5. Fieldwood and BP ongoing joint development and implementation of plans for Loop remediation (including recovery, repair and/or reinstatement)

COST / TIME / RESOURCES

	Hours	\$/Hr	Est. Cost
PM&E	720	\$250	\$180,000
PM,Systems Engineering Review	540	\$250	\$135,000
Flow Assurance	320	\$250	\$80,000
Controls	320	\$250	\$80,000
Jumper Design Basis	320	\$250	\$80,000
Installtion procedures	480	\$250	\$120,000
Operations support	320	\$250	\$80,000
Readiness Review	160	\$250	\$40,000
Regulatory	160	\$250	\$40,000

Total Est. Eng Cost Total Estimated Hours

\$795,000 3340



Genovesa Master Document Register (MDR)

BP Doc # MC474-58-SB-LIS-000022

Highlighted yellow means new document required for Modified Loop arranagement



GENOVESA

		Michael	Tony Convert b. Section in	Nation assured
0	18-May-20	MK	Issued for Use TC	NS
Α	6-May-20	MK	Issued for Review TC	NS
REV	DATE	BY	Description CHKD	APPVD



Fieldwood Energy, LLC

Genovesa Master Document Register (MDR)

Doc. No. GEN-OP-FWE-OPS-LST-0001

Fieldwood Energy

Record of Amendment



Genovesa Master Document Register (MDR)



Doc. GEN-OP-FWE-OPS-LST-0001

Rev. 0

Page 2 of 5

Change Log

Rev	Section	Change Description
Α		Issued for review.
0		Incorporated BP comments. Changes in Red Text.

Document Hold Record

Rev	Section	Hold Description

Introduction

This Master Document Register (MDR) is intended to aid in the Genovesa handover. As such, only the specific documents required to be on-hand are identified.

Only the approved version received directly from Document Control should be used.

Revision and transmittal history for each document is also available from Document Control, if required.

MDR

Œ
ighlighted
yellow m
means new doc
v document
t required
for Modifi

Fleidwood Energy		Highlighted yellow m	Highlighted yellow means new document required for Modified Loop arranagement	
FWE Document Number	Contractor Document Number	BP Document Number	Document Title	Notes
GEN-SS-BPI-ISU-PUN-0001	N/A	MC474-58-58-PN-000018	Design Hazard Management Plan	
FWE-GEN-GAT-COM-CHT-0001	N/A	MC474-58-SB-PFD-000002	Genovesa (MC-519 #3) Turnover and Completions Package Logic Chart	Was GEN-SS-BPI-OPS-CHR-0002.
GEN-OP-FWE-OPS-LST-0001	N/A	MC474-58-SB-LIS-000022	Genovesa MDR (this document)	
GEN-SS-BPI-EHS-CHR-0001	N/A	MC474-58-RG-LIS-000001	Regulatory Compliance Matrix	
Operations				
GEN-SS-BPI-FLA-PLN-0001	N/A	MC474-58-58-TEC-000011	Genovesa Tieback: Hydrate and Chemical Management Philosophy Technical Note	
GEN-SS-BPI-ISU-LST-0001	N/A	MC474-58-58-LIS-000019	Genovesa (MC-519#3) Safe Operating Limits (SOL) Table	
GEN-SS-BPI-ISU-LST-0003	N/A	MC474-58-HS-LIS-000004	Genovesa (MC-519#3) Project Risk Register	
GEN-SS-BPI-ISU-PLN-0001	N/A	MC474-58-5B-PN-000018	Genovesa (MC-519#3) Design Hazard Management Plan	
GEN-SS-BPI-OPS-CHR-0001	N/A	MC474-58-58-LIS-000020		
GEN-SS-BPI-OPS-CHR-0002	N/A	MC474-58-S8-PFD-000002	Genovesa (MC-519 #3) Turnover and Completions Package Logic Chart	
GEN-SS-BPI-OPS-PRO-0001	N/A	MC474-58-HU-PR-000003		
GEN-OP-FWE-OPS-PRO-0002	N/A	MC474-58-OP-MA-000007	- Galapagos Subsea Project-Mississippi Canyon 519 Well Santiago / Santa Cruz/ Genovesa (Subsea Operating Procedur - Manuali	
GEN-SS-BPI-OPS-DAS-0001	N/A	MC474-58-OP-FS-000001	Genovesa Model Update Datasheet	
GEN-SS-BPI-OPS-ANA-0001	N/A	MC474-58-OP-PN-000001	Training Needs Analysis	BP generated document.
Subset Controls				
GEN-SS-FWE-ISU-LST-0001	N/A	MC474-58-SB-LIS-000011	Genovesa Subsea I/O List	
GEN-SS-FWE-ISU-LST-0002	N/A	MC474-58-S8-LIS-000012	nd Setpoint Register	
GEN-SS-FWE-SYS-CHR-0001	N/A	MC474-58-58-D5-000011	Genovesa Subsea Cause and Effects Chart Double Chack MK	
GEN-SS-FWE-SYS-SPC-0002	N/A	MC474-58-58-SP-000004	Subsea Interlock Specification DOUDIE CHECK - IVIN	
GEN-SS-FWE-TCS-BOD-0001	N/A	MC474-58-58-BOD-000006	Genovesa Subsea Software Basis of Design	
GEN-SS-FWE-TCS-SPC-0004	N/A	MC474-58-58-DR-000001	Genovesa MCS Software Requirements	
CONTRACTION AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF T	gypa		ACTIVATA HISETTOR ADQUIRENT ARGITRES	Document obsolete and no longer required. Refer to this document instead (GEN-OP-FWE-OPS-LST-0001 MC474-58-58-LIS-000021).
***	N/A	MC474 58 58 5P 000003-	Scibos Duddom Specification	Document number pulled but not used. Refer to GEN-55-FWE-SYS- CHR-0001 (MC474-58-58-D5-000011), Genovera Subsea Cause and Effects Chart.
Subsea Production System Drawing Package				
GEN-SS-EDG-PRS-DSD-0001	MC474-8076-05-001	MC474-58-SB-SDG-000001	Overall Field Schematic & Scope of Supply	
GEN-SS-EDG-PRS-DSD-0004	MC474-8076-05-002	MC474-58-58-BD-000001	Overall Field Block Diagram	
GEN-03-EDG-PR3-PID-0001	MC4/4-80/6-10-001	MC4/4-28-38-PN-00012	riping and instrument diagram - Genovesa Subsea Well	
GEN-SS-EDG-PRS-PID-0002	MC474-8076-10-100	MC4/4-38-38-PN-000011	Piping and instrument Diagram - Genovesa Flowline	
GEN-SS-EDG-PRS-PID-0004-001	MC474-8076-60-100	MC474-58-58-EL-000004	Subsea Electrical Loop Discram (Sheet 1 of 3)	
GEN-SS-EDG-PRS-PID-0004-002	MC474-8076-60-101	MC474-58-58-EL-000005	Subsea Electrical Loop Diagram (Sheet 2 of 3)	
GEN-SS-EDG-PRS-PID-0004-003	MC474-8076-60-102	MC474-58-58-EL-000006	Subsea Electrical Loop Diagram (Sheet 3 of 3)	
GEN-SS-EDG-PRS-PID-0005-001	MC474-8076-10-003	MC474-58-58-PN-000005	Hydraulic & Chemical Injection Subsea Distribution (Sheet 1 of 6)	
GEN-SS-EDG-PRS-PID-0005-002	MC474-8076-10-004	MC474-58-58-PN-000006	Hydraulic & Chemical Injection Subsea Distribution (Sheet 2 of 6)	
GEN-SS-EDG-PRS-PID-0005-003	MC474-8076-10-005	MC474-58-58-PN-000007	Hydraulic & Chemical Injection Subsea Distribution (Sheet 3 of 6)	
GEN-33-EDG-PR3-PID-0005-004	MC4/4-80/6-10-006	MC4/4-58-58-PN-000008	Hydraulic & Chemical Injection Subsea Distribution (Sheet 4 of 6)	
GEN-3S-EDG-PRS-PID-0005-005	MC474-8076-10-007	MC474-58-58-PN-000009	Hydraulic & Chemical Injection Subsea Distribution (Sheet 6 of 6)	
GEN-SS-EDG-SDS-DSD-0002-001	MC474-8076-60-001	MC474-58-58-EL-000001	Electrical & Communication - Distribution Schematic (Sheet 1 of 3)	
GEN-SS-EDG-SDS-DSD-0002-002	MC474-8076-60-002	MC474-58-58-EL-000002	Electrical & Communication - Distribution Schematic (Sheet 2 of 3) New drawing set + update sh2 of 3 Elec and hyd	n2 of 3 Elec and hyd
GEN-SS-EDG-SDS-DSD-0002-003	MC474-8076-60-003	MC474-58-58-EL-000003	(Sheet 3 of 3)	
GEN-SS-EDG-SDS-DSD-0003-001	MC474-8076-61-001	MC474-58-58-PN-000015	111	
GEN-SS-EDG-SDS-DSD-0003-002	MC474-8076-61-002	MC474-58-58-PN-000014	Genovesa Hydraulic/Chemical Injection - Distribution Schematic (Sheet 2 of 3)	
GEN-SS-EDG-SSS-DWG-0001	MC474-8076-10-001A	MC474-58-58-PID-000012	Pione and Instrumentation Discram - Subses Symbols and Legend	
CLIPTO CON CONT.	WT00-01-0100-01	270000-01-05-05-05-05-05-05-05-05-05-05-05-05-05-	Librid and direction dieb an . Property librid and referred	

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Fieldwood Energy

FWE Document Number	Contractor Document Number	BP Document Number	Document Title	Notes
Subsea Controls Instrumentation/ Devices N/A	M/A	MC474-58-58-DB-000016	GA Drawing Sko-Elo CIMV	Document submitted in error at the request of BP. Do not use.
			GA Drawing Stockle Receptacle Spec Shock for Compress Sho Fig Receptacle	Refer to: GEN-SS-SKF-SSC-PRO-0001 MC474-58-CG-PR-000004, GEN-SS-SKF-SSC-SPC-0002 MC474-58-SB-MA-000019, GEN-SS-SKF-
			Spec Sheet for Genovest Sko Flo GIAV	SSC-SPC-0001 MC474-58-CT-SP-000015, and GEN-SS-SKF-SSC-
			Sixo-Elo Receptade Dual Core LELE GA Drawing	Maria 2007 Maria 2007 Maria 2007
GEN-SS-SKF-SSC-PRO-0001	DOC-00173-1	MC474-58-CG-PR-000004	URE - SkoFlo Subsea Chemical Injection Valve (DOC-0017	Supersedes MC474-58-SB-DB-000016.
GEN-SS-SKF-SSC-SPC-0002	DOC-00969-004	MC474-58-SB-MA-000019	User Manual Supplement, CIMV Custom - C4Nopen Configuration 004 (DOC-00969-004)	Supersedes MC474-58-SB-DB-000016.
GEN-SS-SKF-SSC-SPC-0001	22948-3PEC	MC474-58-CT-SP-000015	Configuration and Specification Sheet CIMV Dual LF Gen 1	Supersedes MC474-58-58-D8-000016.
GEN-SS-SKI-SSC-MAN-0001	DOC:00969	MC4/4-58-58-MA-000012	User Manual, Misv2-Compliant Chemical Injection Valve (CIMV) with Analog Pressure Sensors	
***	\$	MC474 58 58 D8 000017-	Communication System Specification (BOC 0127970_A)	Document submitted in error at the request of BP. Do not use. Defer to: GFNLSC-DSC-DSC-DMC-DD01 MC/474-58-SR-DS-D00019
			Modbus Interface VAMeter (DOC-0138491_A)	GEN-SS-OSS-SSC-SPC-0001 MC474-58-CM-SP-000001, GEN-SS-
			Interconnection Diagram for PWI WASS Type E (DRW/0000153_A)	OSS-SSC-FAT-0001 MC474-58-58-PR-000125, GEN-SS-OSS-SSC-
				3PC-0002 MC474-39-38-03-000013, GEN-33-033-33C-PRO-0001 MC474-58-HU-PR-000005, and GEN-55-055-55C-DSD-0001
				MC474-58-SB-REF-000001.
GEN-SS-0SS-SSC-DAS-0001	DOC-0093547	MC474-58-58-DS-000018	Data Sheet PW Vx SS Type F.2 SD2G	Supersedes MC474-58-SB-DB-000017.
GEN-SS-0SS-SSC-SPC-0001	DOC-0127970	MC474-58-CM-SP-000001	Communication System Specification	Supersedes MC474-58-SB-DB-000017.
GEN-SS-0SS-SSC-FAT-0001	DOC-0127971	MC474-58-58-PR-000125	FAT - Final Inspection Procedure for PW Vx SS Type F	Supersedes MC474-58-SB-DB-000017.
GEN-SS-0SS-SSC-PRO-0001	DOC-0138731	MC474-58-HU-PR-000005	Commissioning Procedure PW Vx SS	Supersedes MC474-58-SB-DB-000017.
GEN-SS-OSS-SSC-DSD-0001	DRW-0008153	MC474-58-SB-REF-000001	Interconnection Diagram for PW Vx SS Type F	Supersedes MC474-58-SB-DB-000017.
###	₩ 	MC474 58 58 MA 000011	GampOn Sand Detector Data Book GlampOn Subsea DSP Products. Installation and Operation Manual not included:	Document submitted in error at the request of BP. Dot not use.
				and KAT-SS-OSS-SSC-GAR-0003 MC474-58-58-GA-000038.
KAT-SS-OSS-SSC-PRO-0015	X-065438-08-39	MC474-58-IN-OP-000001	Installation - Operating Instructions - Subsea Particle Monitor	Superzedes MC474-58-SB-MA-000011.
KAT-SS-OSS-SSC-GAR-0003	SK-067201-33-51	MC474-58-58-GA-000038	GENERIC ASSEMBLY DRAWING ACOUSTIC SAND DETECTOR WITH HARNESS	Supersedes MC474-58-SB-MA-000011
KAT-55-055-55C-5PC-0002	X-076806-45	MC474-58-58-DS-000014	Functional Design Specification - Low Flow Chemical Injection Metering Valve - Receptacle - Dummy Insert and Simulator	Katmai standard product. Duplicate submittal of MC474-58-S8-DS- 000017
KAT-SS-OSS-SSC-SPC-0002	X-076806-45	MC474-58-SB-DS-000017	Functional Design Specification - Low Flow Chemical Injection Metering Valve - Receptacle - Dummy Insert and	Katmai standard product. Duplicate submittal of MC474-58-S8-DS-
				000014.
GEN-SS-SLB-SSC-DAS-0001	12-c0-1031	MC474-58-58-DS-000015	Data Sheet for IFIC NG Next Generation IWIS Frequency Shift Keying Interface Card	Katmai Universal SCM.
VAT-65-055-55C-0A5-0002	X-0/6/94-40-45	MC474-58-58-MA-000018	and Maint	Katmai standard product
KAT-SS-0SS-SSC-GAR-0005	SK-067200-21-49	MC474-58-58-GA-000021	General Arrangement Drawing - Pressure Temperature Transmitter - PTT	Katmai standard product.
GFN_CC.CC7_MWM_bb0_0006	TC1105-4400017503-H08-0003	MC474-58-58-BEC-000004	New Industries - Conguest Field Development - FAT Drocedure - Imposes (DI FM 1 to DI IS)	
GEN-55-557-MWM-PRO-0005	TC1105-4400017593-H08-0003	MC474-58-SB-REC-000005	New Industries - Genovesa Field Development - FAT Procedure - Jumpers (PUS to SA-PLEM 1)	
GEN-PM-FWE-PRE-PRP-0001	N/A	MC474-58-SB-WP-000008	Genovesa Pressure Cap Removal Tool Method Statement	
GEN-SS-BPI-OPS-PRO-0003	N/A	MC474-58-HU-PR-000004	Genovesa Tree Static Commissioning Procedure	
GEN-SS-TWE-OFS-FRO-0002	N/A 80107047S	MC474-56-58-88-000124	Canonias Limbar S. Flying Land Installations Procedure Manual	
GEN-SS-OII-SSF-PRO-0002	801070476	MC474-58-S8-WP-000001	Genovesa Well Jumper Installation Work Package #1	
GEN-SS-0II-SSF-PRO-0003	801070477	MC474-58-SB-WP-000002	Fieldwood Santiago SFL Relocation & Installation Work Package #5	
GEN-SS-OII-SSF-PRO-0004	801070478	MC474-58-SB-WP-000003	Fieldwood Santiago SFL & Splitter Box Installation Work Package #6	
GEN-SS-OII-SSF-PRO-0005	801070479	MC474-58-SB-WP-000004	Fieldwood Genovesa SFL Installation Work Package #3	
GEN-SS-OII-SSF-PRO-0006	801070480	MC474-58-SB-WP-000005	Fieldwood Genovesa Well EFL Installation Work Package #5	
GEN-SS-OII-SSF-PRO-0007	801070481	MC474-58-SB-WP-000006	Fieldwood SDU EFL Installation Work Package #8	
GEN-SC-DIL-SCI LEBOL-DOOR	8010/0482	MC474-58-58-50W-00000	Fieldwood Genoves Dewatering and Umbilital Commissioning Scopes - Procedure Manual	
GEN-SS-SS7-CSU-PRO-0002	TC1105-ENG-00082	MC474-58-SB-PR-000115		
GEN-SS-SS7-EHS-PUN-0010	TC1105-HSE-00003	MC474-58-SB-RP-000059	Structures and Concrete Mattress Installation HIRA Report	
GEN-SS-SS7-IST-ANA-0001	TC1105-ENG-00007	MC474-58-SB-RP-000060	Installation Analysis Report - Rigid Pipe	
GEN-SS-SS7-SSU-PRO-0013	TC1105-ENG-00019	MC474-58-58-PR-000117	Static Umb Tical - Installation Procedures	
GEN-SS-SS7-SSU-PRO-0014	TC1105-ENG-00078	MC474-58-SB-PR-000110	Jumpers Installation Procedure	

FWE Document Number	Contractor Document Number	BP Document Number	Document Title	Notes
GEN-SS-SS7-SUR-PRO-0002	TC1105-SRV-00002	MC474-58-S8-PR-000113	Survey and Positioning Procedure - Construction	
GEN-SS-SS7-SUR-PRO-0003	TC1105-SRV-00003	MC474-58-S8-PR-000114	Survey and Positioning Procedure - Umbilical	
GEN-SS-SS7-SUR-PRO-0004	TC1105-SRV-00004	MC474-58-S8-PR-000112	Survey and Positioning Procedure - Flowline	
SURF / Hardware				
GEN-PM-FWE-PRM-DWG-0008	N/A	MC474-58-SB-LD-000047	Genovesa Subsea Tie-Back Proposed Flowline and Umbilical at Santa Cruz PLEM	Document superseded by GEN-SS-SS7-SUR-DWG-0006 MC474-58- SB-1 0-000053
GENLENLEWE-PRIALDING-0007	ANA	MC474-58-58-LD-000052	Mississippi Conyon Asea Block 519 Proposed Flowline and Umbilisal at Genovesa Well	Document cancelled and not made. Document superseded by GEN-
				SS-SS7-SUR-DWG-0005 MC474-58-SB-LD-000054.
GEN-SS-SS7-SUR-DWG-0006	TC1105-DR-DC-93001	MC474-58-SB-LD-000053	Santiago Drill Centre, Ac-Built	Replaces GEN-PM-FWE-PRM-DWG-0008 MC474-58-5B-LD-
GEN-SS-SS7-SUR-DWG-00005	TC1105-DR-DC-93000	MC474-58-58-LD-000054	Drill Centre Genovesa Well, Ac-Built	Replaces placeholder document number: GEN-PN-FWE-PRIN-DWG- 0007 MC474-58-58-LD-000052.
GEN-SS-SS7-SDS-DSD-0001	TC1105-4400015912-C12-0004	MC474-58-SB-SDG-000005	Schematic, Hydraulic, Control Distribution Equipment Genovesa	
GEN-SS-SS7-SSF-GAR-0002	TC1105-DR-PR-21102	MC474-58-S8-GA-000024	General Arrangement 6" Production Dual Hub PLEM 2	
GEN-SS-SS7-SSF-GAR-0003	TC1105-DR-PR-21302	MC474-58-SB-GA-000025	Piping Arrangement and Details 6" Production Dual Hub PLEM 2	
GEN-SS-SS7-SSF-GAR-0012	TC1105-DR-PS-47101	MC474-58-SB-GA-000033	Arrangement and Details 6 inch Well Jumper - Sht1 thru 2e	
GEN-SS-SS7-SSF-GAR-0013	TC1105-DR-PS-47102	MC474-58-SB-GA-000023	Arrangement and Details 6 in Flowline Jumper PUS to SA-PLEM-1	
GEN-SS-SS7-SSF-GAR-0014	TC1105-DR-PS-47103	MC474-58-SB-GA-000034	Arrangement and Details 6 inch Flowline Jumper PLEM-1 to PLIS	
GEN-SS-SS7-SSF-GAR-0015	TC1105-DR-PR-21101	MC474-58-SB-GA-000026	General Arrangement 6" Production Dual Hub PLEM1	
GEN-SS-SS7-SSF-GAR-0016	TC1105-DR-PR-21301	MC474-58-SB-GA-000027	Piping Arrangement and Details 6" Production Dual Hub PLEM 1	
GEN-SS-SS7-SSF-GAR-0018	TC1105-DR-PR-21103	MC474-58-SB-GA-000028	General Arrangement and Details 6" Production Dual Hub PUS	
GEN-SS-SS7-SSF-GAR-0022	TC1105-DR-PR-61813	MC474-58-SB-GA-000035	ARRANGEMENT & DETAILS - 6" PRODUCTION DUAL HUB PLIS INSULATION	
GEN-SS-SS7-SSF-GAR-0023	TC1105-DR-PR-61803	MC474-58-SB-GA-000036	ARRANGEMENT & DETAILS 6" PRODUCTION DUAL HUB PLIS ANODES	
GEN-SS-SS7-SSF-PRM-0001	TC1105-ENG-00010	MC474-58-SB-MA-000018	ы	
GEN-SS-SS7-SSF-RPT-0009	TC1105-ENG-00074	MC474-58-SB-RP-000058	Jumper Design Report New Teport Tamer than updating	
GEN-SS-SS7-SSF-RPT-0011	TC1105-ENG-00075	MC474-58-SB-RP-000061	Pipeline Structure - PUS Design Report	
GEN-SS-SS7-SSU-DWG-0001	TC1105-4400015912-D01-0001	MC474-58-SB-GA-000030	Umbilical Cross Section Genovesa Umbilical	
GEN-SS-SS7-SSU-GAR-0004	TC1105-4400015912-801-0003	MC474-58-SB-GA-000031	General Arrangement GV-1 UTA (Type A) Genovesa	
GEN-SS-SS7-SSU-GAR-0005	TC1105-4400015912-B01-0004	MC474-58-SB-GA-000032	General Arrangement GV-2 (Type B) Genovesa	
GEN-SS-TEI-SSF-GAR-0002	1350-GA-01	MC474-58-SB-GA-000029	General Assembly Drawing - 5.1/8" 15K Slab Gate Valve, HYD FSC + ROV	